(19) World Intellectual Property Organization International Bureau





(43) International Publication Date 20 April 2006 (20.04.2006)

(10) International Publication Number WO 2006/040950 Al

(51) International Patent Classification:

G05F 3/24 (2006.01) H03F 3/347 (2006.01)

G05F 3/26 (2006.01)

(21) International Application Number:

PCT/JP2005/0 18208

(22) International Filing Date:

26 September 2005 (26.09.2005)

(25) Filing Language:

English

(26) Publication Language:

English

(30) Priority Data: 2004-296479

8 October 2004 (08. 10.2004)

- (71) Applicant (for all designated States except US): RICOH COMPANY, LTD. [JP/JP]; 3-6, Nakamagome 1-chome, Ohta-ku, Tokyo, 1438555 (JP).
- (72) Inventor; and
- (75) Inventor/Applicant (for US only): NODA, Ippei [JP/JP]; 6-119-304, Satsukigaoka 2-chome, Ikeda-shi, Osaka, 5630029 (JP).

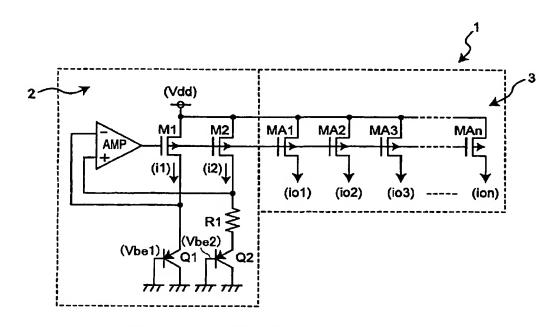
- (74) Agent: ITOH, Tadahiko; 32nd Floor, Yebisu Garden Place Tower, 20-3, Ebisu 4-chome, Shibuya-ku, Tokyo 150-6032 (JP).
- (81) Designated States (unless otherwise indicated, for every kind of national protection available): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, KE, KG, KM, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, LY, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NG, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SM, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW
- (84) Designated States (unless otherwise indicated, for every kind of regional protection available): ARIPO (BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European (AT,BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LT, LU, LV, MC, NL, PL, PT, RO, SE, SI, SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

Published:

with international search report

[Continued on next page]

(54) Title: CONSTANT-CURRENT CIRCUIT AND SYSTEM POWER SOURCE USING THIS CONSTANT-CURRENT CIRCUIT



(57) Abstract: This invention relates to a constant current circuit which generates stable currents to operational amplification circuits in order to reduce variations caused by manufacturing processes and the temperature. It involves a reference current circuit comprising two PMOS transistors (Ml, M2), two PNP transistors (Q1,Q2), an operational amplification circuit (AMP) which controls the drain voltages of the PMOS transistors, and a resistor (R1).

2006/040950 A1

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.